

Notice of Allowability

Application N .

09/628,310

Examiner

Alan A. Mathews

Applicant(s)

NISHI, KENJI

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to filing an RCE on 4-12-2004.
2. ☒ The allowed claim(s) is/are 1-53.
3. ☒ The drawings filed on 28 July 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 10-24-03
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's ~~Amendment~~ / Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Alan A. Mathews

Alan A. Mathews
Primary Examiner
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EXAMINER'S COMMENT

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 12, 2004, has been entered.

Drawing Objection

2. After very careful consideration of Applicant's Remarks filed April 12, 2004, concerning the drawing objection in the previous Office Action mailed to Applicant on October 10, 2003, the newly assigned Examiner withdraws the objection to the drawings under 37 CFR 1.83(a).

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose or suggest measuring a height of the surface of the substrate at a measuring point disposed in front of the part of the area in the relative

movement direction; and setting the positional relationship to perform exposure on the basis of information about the measured height of the surface of the substrate and information about an inclination angle of a running surface of the substrate stage in combination with all the other recitations in independent claim 1.

The prior art of record does not disclose or suggest measuring at least one of a rolling amount of the substrate stage, a pitching amount of the substrate stage, and a displacement amount of the substrate stage in an optical axis direction of the optical system at a plurality of positions within a movement stroke of the substrate stage using a fiducial member having good flatness arranged on the substrate stage, and storing a result of measurement; and correcting at least one of a running direction of the substrate stage and a height of a surface of the substrate on the basis of the result of measurement during exposure for the substrate in combination with all the other recitations in independent claim 12.

The prior art of record does not disclose or suggest measuring a height position of the substrate at a first measuring point which arrives at an image-forming area on the substrate prior to the part of the area in the relative movement direction; measuring a height of the substrate at a second measuring point which arrives at the image-forming area on the substrate prior to the first measuring point in the relative movement direction; and moving the substrate to a height position within a detectable range of a unit for measuring the height position of the substrate at the first measuring point, on the basis of

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a measured value obtained at the second measuring point in combination with all the other recitations in independent claim 18.

The prior art of record does not disclose or suggest a focusing stage which conforms the surface of the substrate to the image plane of the optical system in the exposure area of the optical system on the basis of a value measured by the focus position-measuring unit and information about an inclination angle of a running surface of the substrate stage in combination with all the other recitations in independent claim 25.

The prior art of record does not disclose or suggest a measuring unit with a fiducial member having good flatness arranged on the substrate, stage, which measures at least one of a rolling amount of the substrate stage, a pitching amount of the substrate stage, and a displacement amount of the substrate stage in an optical axis direction of the optical system at a plurality of positions within a movement stroke of the substrate stage; and a focusing stage which stores a result of a measurement performed by the measuring unit and which corrects at least one of a running direction of the substrate stage and a height of a surface of the substrate on the basis of the result of the measurement during exposure for the substrate in combination with the other elements recited in independent claim 35.

The prior art of record does not disclose or suggest a first focus position-measuring unit which measures a height position of a surface of the substrate at a first measuring point disposed in front of the part of the area in the relative movement direction; a second focus

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position-measuring unit which measures a height position of the substrate at second measuring point set in the vicinity of the first measuring point; and a focusing stage which allows a height of the surface of the substrate to be included within a detectable range of the first focus position-measuring unit on the basis of a result of measurement performed by the second focus position-measuring unit in combination with all the other elements recited in independent claim 40.

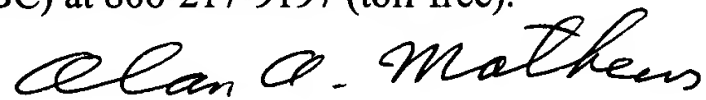
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (571) 272-2123. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alan A. Mathews
Primary Examiner
Art Unit 2851

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